

What is claimed is:

1. A polymeric composition comprising the reaction product of:
  - a) a thermoplastic polymer or blend of thermoplastic polymers, and
  - b) a hydrophilic plasticizer or blend of hydrophilic plasticizers,

wherein at least one of said hydrophilic plasticizers is covalently bonded with at least one of said thermoplastic polymers.

2. A polymeric composition according to claim 1 wherein said thermoplastic polymer or blend of thermoplastic polymers are selected from the group consisting of polyurethanes, poly-ether-amides, poly-ether-esters, poly-ether-ester-amides, polyethylene-acrylic acid copolymers, styrene-maleic anhydride copolymers, polyamides, polyesters, and mixtures thereof.
3. A polymeric composition according to claim 1 wherein said hydrophilic plasticizers comprise at least one functional group that forms a covalent bond with said thermoplastic polymer.
4. A polymeric composition according to claim 3 wherein said functional group is selected from hydroxyl, amino, epoxy, and olefinically or acetylenically unsaturated groups.
5. A polymeric composition according to claim 1 wherein said hydrophilic plasticizers are selected from the group consisting of monomeric and polymeric alcohols, polyvalent alcohols, monomeric and polymeric amines and polyvalent amines.
6. A polymeric composition according to claim 5 wherein said hydrophilic plasticizers are selected from the group consisting of polyethylene glycol, polypropylene glycol, polytetramethylene glycol and copolymers of thereof.
7. A polymeric composition according to claim 1 wherein said composition comprises an additional component comprising at least two reactive groups capable of bridging said thermoplastic polymer and said hydrophilic plasticizer.

8. A polymeric composition according to claim 1 wherein said hydrophilic plasticizer is covalently bonded to said thermoplastic polymer forming a 3-dimensional network.
9. A polymeric composition according to claim 1 wherein said composition further comprises a cross-linking agent.
10. A polymeric composition according to claim 9 wherein said cross-linking agent comprises aminoplast or phenoplast resin.
11. A polymeric composition according to claim 1 wherein said composition further comprises catalysts and/or activators.
12. A polymeric composition according to claim 1 wherein said composition comprises at least one additional hydrophilic plasticizer which is not capable of chemically bonding with said thermoplastic polymer or blend of thermoplastic polymers.
13. A polymeric composition according to claim 1, said composition being prepared in presence of a solvent, either as a homogeneous solution, or as dispersion or emulsion wherein said thermoplastic polymers and/or said hydrophilic plasticizers are present as emulsions, or dispersions or in solution in said dispersion or emulsion.
14. A polymeric composition according to claim 13, said composition being prepared in a waterborne system, by mixing either waterborne emulsions of polymers and plasticizers, or solutions of polymers and emulsions of plasticizer, or polymer waterborne emulsions and solutions of plasticizers.
15. A polymeric composition according to claim 1, said composition being prepared by hot melt techniques.
16. A polymeric composition according to claim 15 wherein said polymeric composition is in the molten state and has a viscosity of from about 50 to 4000 poise at a frequency of about 1 rad/s at processing temperature and a viscosity of less than about 2000 poise at a frequency of about 100 rad/s at processing temperature, in which processing temperature is between about 70-190°C.

17. A moisture vapour permeable layer formed from the polymeric composition of claim 1, wherein said layer is liquid impervious and exhibits a Water Vapour Transmission Rate (WVTR) of at least about 600 g/m<sup>2</sup>.day, and wherein said layer has a thickness of at least about 20 µm.
18. A moisture vapour permeable layer according to claim 17, wherein said layer has a Water Vapour Transmission Rate (WVTR) of at least about 1300 g/m<sup>2</sup>.day, and wherein said layer has a thickness of at least about 20 µm.
19. A moisture vapour permeable, liquid impervious composite comprising at least one layer according to claim 17 coated onto a substrate, said substrate being moisture vapour permeable.
20. A moisture vapour permeable, liquid impervious composite according to claim 19 wherein said substrate is a woven, knitted or non woven substrate.
21. A moisture vapour permeable, liquid impermeable article wherein said article comprises at least one moisture vapour permeable, liquid impervious layer according to claim 17.
22. A moisture vapour permeable, liquid impermeable article wherein said article comprises at least one moisture vapour permeable, liquid impervious composite according to claim 19.
23. A process for making a composition according to claim 1, comprising the steps of:
  - a) providing a thermoplastic polymer or blend of thermoplastic polymers, and
  - b) providing a hydrophilic plasticizer or blend of hydrophilic plasticizers capable of covalently bonding with at least one of said thermoplastic polymers ,
  - c) providing suitable conditions which allow said hydrophilic plasticizer or blend of plasticizers to covalently bonding with said thermoplastic polymer or blend of thermoplastic polymers to form said polymeric composition.
24. A process according to claim 23,

wherein said thermoplastic polymers or blend of thermoplastic polymers are selected from the group consisting of polyurethanes, poly-ether-amides, poly-ether-esters, poly-ether-ester-amides, polyethylene-acrylic acid copolymers, styrene-maleic anhydride copolymers, polyamides, polyesters, and mixtures thereof, and

wherein said hydrophilic plasticizers are selected from the group consisting of monomeric and polymeric alcohols, polyvalent alcohols, monomeric and polymeric amines and polyvalent amines.